

NRC INSPECTION MANUAL

PART 9900: TECHNICAL GUIDANCE

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A. MATERIALS LICENSE CONDITIONS

1. Exemption from Leak Testing Sealed Sources

Background

On October 29, 1970, the Division of Materials Licensing began using the following license condition pertaining to exemption from leak testing of sealed sources:

"Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such tests when the source contains 100 microcuries or less of beta and/or gamma emitting material; or 10 microcuries or less of alpha emitting material."

This exemption replaced one previously used which related the quantity of material in such sealed sources to values in 10 CFR 31, Section 31.100, Schedule A. That schedule was removed from the regulations on October 22, 1970.

Guidance

It may take several years to change the exemption from leak test requirements on all specific licenses. Notwithstanding the provisions of the regulations or of a specific license, licensees should not be cited for noncompliance for failure to leak test sources which meet the criteria of the above-quoted exemption. The only exception to this rule is that licensees who fabricate sealed sources for transfer to other persons must leak test the sources in accordance with the provisions of their licenses.

2. Compliance with Department of Transportation (DOT) Regulations

Background

Licensees who have authority to transport radioactive materials are subject to the regulations of the Department of Transportation. When such regulations are not applicable, by reason of the fact that the transportation does not occur in interstate or foreign commerce, or the transportation does not occur in civil aircraft, the licensee is required by condition of the license to perform the transportation in accordance with the DOT regulations relating to packaging of radioactive materials, marking and labeling of the package, placarding of the transportation vehicle, and reporting of accidents.

Detailed guidance has not been developed with respect to DOT regulations because of the great difficulty one encounters in trying to establish whether transportation under a particular set of

circumstances involves "interstate commerce." For example, interstate commerce normally includes (1) those materials normally carried in interstate shipment but at the moment being carried within the confines of one state; (2) those carried by interstate carriers with other interstate shipment even though the particular shipment moves only within one state; and (3) those where materials are being hauled intrastate but will ultimately travel across state lines. Although a deficiency with respect to DOT regulations may be observed during an inspection, the inspector may be unable to ascertain whether the deficiency represents a violation of an AEC license condition (i.e., for an intrastate shipment) or a violation of DOT regulations (i.e., for an interstate shipment).

With this reservation in mind, guidance will be provided on the application of DOT regulations as the need arises.

Guidance

- a. Citations for noncompliance are appropriate only when it is established that the transportation has not been within interstate commerce.
- b. Under DOT regulations, 49 CFR 177.823, vehicles must be placarded as "Radioactive" when transporting radioactive materials which require a "radioactive Yellow III" label. DOT representatives have informed us that, based upon an extension of the provisions in 49 CFR 173.25 dealing with specification containers in outside containers, the radiation levels on the outer container determine the labeling and, hence, the placarding requirements. The outer container must also be marked, "Inside Packages Comply with Prescribed Specifications", unless the specification markings on the inside package are visible through openings in the outside package. Therefore, if radiation levels around an outer container are less than 10 mr/hr at contact and 0.5 mr/hr at three feet, only a Yellow II label is required, and placarding of the vehicle is not required.

3. Monitoring Personnel for Contamination at Uranium Mills

Background -

Due to some maintenance and operational activities at uranium mills which resulted in extensive radioactive contamination on the persons of employees, the Division of Materials Licensing began using, about January 1, 1971, the following license condition which requires the monitoring of personnel for contamination.

"The licensee shall determine that employees leaving work are not contaminated with radioactive materials. When an employee has showered and changed clothing prior to leaving work, he may be assumed to be free of contamination."

Guidance -

The following guidelines should be applied to determining licensees compliance with this licensed condition:

- a. If the licensee determines that any group of employees (secretaries, administrative personnel, etc.) work only in areas which are not contaminated with radioactive materials, this may be construed to be a determination that such employees were not contaminated. The DML "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use" dated April 22, 1970, may be used in defining uncontaminated areas. Areas having contamination levels below these limits may be considered to be clean; and, therefore, employees who frequent only these areas would not be subject to this license condition. Note that if all areas of the mill are maintained at contamination levels below those specified in the "Guide," then no routine monitoring for personnel contamination is necessary.
 - b. If no contamination is found on employees who work in areas having very low levels of radioactive contamination (crusher, leach, or any other area), periodic monitoring of the persons of these employees should suffice and routine monitoring would not be necessary. Direct readings up to 150 dpm/100 cm² alpha is acceptable on the skin, if there is no removable contamination.
 - c. It is the intent of this license condition that employees who work in areas or with equipment which may result in personnel contamination (e.g., yellow-cake area or equipment utilized therein) should be checked routinely. Determinations of the presence or absence of radioactive contamination on the persons of employees who have worked in contaminated areas can be made by the conventional method of using alpha survey meters or hand-and-foot counters. In lieu of applying these conventional personnel monitoring techniques, the licensee may assume that an employee has no radioactive contamination on his person "when an employee has showered and changed clothing prior to leaving work."
4. Management Approval of Maintenance Activities at Uranium Mills

Background

In order to ensure that proper procedures are formulated and implemented for adequate health and safety controls, the Division of Materials Licensing began using, about January 1, 1971, the following condition in licenses for uranium mills:

"Changes in the mill circuit or equipment, including maintenance activities, shall be approved in writing by the Manager or Assistant Manager. During such changes and activities, radiation safety surveys shall be conducted to determine employee exposure to radioactive materials."

Guidance

It is the intent of this condition of the license to have the health physics requirements and safety considerations reviewed by management for process equipment changes and maintenance activities where radioactive materials may be encountered. Such a review for good health physics practices would not be necessary for uncontaminated systems. Health physics practices and procedures should be reviewed and established by management for the initial operation of a repetitive task; and, even though not routine, "blanket" approval may be given for future similar operations where the same procedures are employed. Management, of course, should have some periodic checks to evaluate the controls, and a reevaluation should be made when conditions or techniques are changed. Responsibility for the review of procedures for equipment changes and maintenance activities may be delegated only to members of management who have jurisdiction over all groups involved in such operations and these may include production, maintenance, health physics,